

REMARKS/ARGUMENTS

Claims 1-71 are pending in the application. All of claims 1-67 currently stand rejected. Additionally, the Examiner has objected to claims 1, 2 and 25. Claims 68-71 are new. Applicants believe that the claims, as amended, and the remarks laid out herein below address each of the Examiner's objections to and rejections of the claims. When used below, numbers in titles indicate responses corresponding to the numbered paragraphs of the Office Action mailed 22 July 2003.

In the Specification

On page 2 of the application, a typographical error is corrected by striking the extraneous word "be ." No new matter is added.

On page 8 of the application, the word "electric" is replaced with "electrical" for clarity, as the word "electrical" is used at two later places in the same paragraph. No new matter is added.

In the Claims

Applicants herewith submit amendments to claims 1, 2, 5, 6, 11-13, 16, 19, 21-25, 28, 30, 31, 34, 35, 38, 41, 43-62, 65, and 66, and new claims 68-71, which are discussed below. Claim 10 is canceled.

Applicants elect to make amendments to Claims 2, 25, 35, 38, and 45 to provide proper antecedent correspondence. Amendments to claims 11, 12, 13, 16, 19, 21, 22, 23, 41, 43, 44, 45, 47, 49, 52-55, 58-61, and 66 include corrections for antecedent bases after alteration or removal of a base claim number or term by amendment. Amendments to claims 55 and 61 include correction of typographical errors in a plural/singular sense.

Claims 9, 12, 30, 34, 46, 48 have been amended to use the term "deploy" instead of "situate," for better correspondence to the language used in the specification. Support for use of the term "deploy" (including the terms "deployment," "deployable," "self-deployment," "passive deployment," and "living hinge deployment") is found in the specification at page 2, lines 13-20 and 26-33; page 8, lines 6-13; page 9, lines 20-21; page 10, lines 3-4; and page 11, lines 6-8.

Claim 1 is amended for clarification. The added text "first and second devices in a" creates the antecedent terms "first device" and "second device" earlier in the claim, so that they can be used in the first step listed in the claim. Support for the added text, "connecting a hinge along a first shared edge between the first device and the second device" is found in the

specification at page 6, lines 2-8. Support for the modified text, "hingedly connecting a first bracing member to a first side of the first device; hingedly connecting a second bracing member to the first bracing member along a second shared edge" is found in the specification at page 5, line 29 through page 6, line 8; page 6, lines 27-30; and by inspection of bracing members 110 and 120 in Figs. 3 and 4, and their description at page 10, lines 10-19 and 22-30. Support for the modified text "hingedly connecting the second bracing member to a first side of the second device such that the second shared edge is parallel with the first shared edge" is found in the specification at page 6, lines 2-8, and by inspection of bracing members 110 and 120 in Figs. 3 and 4.

Applicants also elect to amend claims 22 and 44 to specify that a third bracing member be hingedly attached to a "bracing member" and to "at least one of the [first and second] devices." Support for these changes is found in the bracing members 140 shown in Fig. 1, 3, and 4 and discussed in the specification in connection therewith, for example at page 9 lines 13-15 and page 10, lines 14-16.

Claim 24 is amended for clarification. The superfluous word "An" has been omitted. Adding the words "first and second devices in a" in the first two lines creates the antecedent terms "first device" and "second device" earlier in the claim, so that they can be used in the next two lines of the claim. Support for the added text, "with at least the first device and the second device hingedly connected along a first shared edge" is found at page 6, lines 2-8. The term "bracing" has been substituted for the term "brace" in three places, for better correspondence with usage of this term in the specification, for example at page 6, lines 2-26 and page 10, lines 1-2 and 10-19. Support for the modified text, "...the first bracing member along a second shared edge and hingedly connected to the second device, wherein the second shared edge is parallel with the first shared edge" is found in the specification at page 5, line 29 through page 6, line 8; page 6, lines 27-30, and by inspection of bracing members 110 and 120 in Figs. 3 and 4, and their description at page 10, lines 10-19 and 22-30.

Claim 46 has been amended for clarification. Support for the modified text, "providing a plurality of devices, at least a first device and a second device being foldably connected, along a first shared edge, to one another" is found in the specification at page 6, lines 2-8. Support for the modified text, "hingedly connecting, along a second shared edge, a pair of bracing members; and hingedly connecting the pair of bracing members to the pair of devices" is found in the specification at page 5, line 29 through page 6, line 8; page 6, lines

27-30; and by inspection of bracing members 110 and 120 in Figs. 3 and 4, and their description at page 10, lines 10-19 and 22-30. Support for the added text, "wherein the first shared edge and the second shared edge are parallel, and the pair of bracing members is adapted to deploy the pair of devices in an open position" is found by inspection of bracing members 110 and 120 in Figs. 3 and 4, and at page 2, lines 16-20.

Claim 48 has been amended for clarification. Support for the changes to claim 48 are found in the same places in the figures and specification as the like changes to claim 46.

Claim 50 has been amended for clarification. The modified text "providing a plurality of devices, at least a pair of the devices being foldably attached..." creates the antecedent term "pair of [the] devices" earlier in the claim. Support for the modified text "attaching at least two hingedly connected bracing members to the pair of devices" is found throughout the drawings and specification, one example being Fig. 3 and the description thereof at page 10, lines 10-19. The added text, "wherein at least one of the bracing members used in the attaching step comprises means for transmitting electricity" finds support in original claim 51 and in the specification at page 9, lines 13-15.

Claim 51 has been amended to include the limitation "wherein two or more of the bracing members comprise means for transmitting electricity." This text finds support in the original claim 51, which read "wherein the bracing members comprise means for transmitting electricity" and in the specification at page 9, lines 13-15.

Claims 54 and 60 have been amended to use the term "flexible" instead of "flex" for better correspondence with usage of this term in the specification at page 8, lines 15-16.

Claim 55 has been amended to refer to the antecedent term "means for transmitting electricity" defined in claim 50.

Claim 56 has been amended for clarification. The term "apparatus for integrated cabling with stiffening or supporting means" is changed to "apparatus for stiffening or supporting means with integrated cabling." The remainder of the changes to claim 56 find support in the same places as the like changes to claim 50, as discussed above.

Claim 57 has been amended to include the limitation that both of the bracing members defined in claim 56 comprise means for transmitting electricity and finds support in the same manner as claim 51 as discussed above.

Claim 62 and 65 have been amended for clarification. The changes to claim 62 and 65 find support in the specification at the same places as the like changes to claim 1, as discussed above.

Claims 68-71 are added. All of these claims find support in the claims on which they depend, and in the specification at page 2, lines 11-12 and 16-17, and at page 8, lines 8-13.

No new matter is added through any of the foregoing amendments.

1. Claim Objections

The Office objects to claims 1, 2 and 25 due to informalities. Applicants have amended claims 1, 2 and 25 to correct these informalities, in accordance with the Examiner's suggestions. Applicants have also amended claims 2 and 25 to add the word "an" which was inadvertently omitted before the words "electro-mechanical device," and have amended claim 25 to change "electromechanical" to "electro-mechanical" for consistency with claim 2 and the manner of wording throughout claims 2 and 25. No new matter is added. Applicants therefore respectfully request withdrawal of the objections to claims 1, 2 and 25.

2 and 3. Claim Rejections – 35 USC § 112

Claims 5, 16, 21, 23, 28, 38, 43, 45, 47 and 49 stand rejected under 35 USC § 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. In accordance with the Examiner's requirement, Applicants have amended claims 5, 16, 28, 38, 47 and 49 to correct improper Markush language. Applicants have further amended claim 5 to correct an error in antecedence. Claims 21 and 43 are amended to replace the term "grid-like" with "gridded." Claim 23, is additionally amended to change the term "substantial portion" to "portion." Claim 43 is amended in like manner. Finally, Applicants have amended claims 23 and 45 to clarify those devices referred to at line 2 in each claim. Specifically, the phrases "said array of devices and means for bracing" in claim 23 and "said array of devices and brace members" in claim 45 have both been amended to read "said devices and bracing members," for correspondence with base claims 1 and 24 (as amended), respectively. In light of the amendments described herein, Applicants respectfully request reconsideration and withdrawal of the Examiner's rejection of claims 5, 16, 21, 23, 28, 38, 43, 45, 47 and 49 with respect to 35 USC § 112.

4-7. Claim Rejections – 35 USC § 102

Claims 1-17, 19-39, and 41-67 stand rejected under 35 USC § 102(b) as anticipated by U.S. Patent No. 6,031,178 ("Kester"), U.S. Patent No. 3,690,080 ("Dillard"), and EP 884241 A1 ("Cruyssen"). To anticipate a claim, each and every limitation of the claim must be taught by the cited art. Applicants respectfully traverse these rejections for the reasons given below.

Amended claim 1 includes the limitations of: (1) connecting a hinge between a first device and a second device along a first shared edge; (2) hingedly connecting a first bracing member to a first side of the first device; (3) hingedly connecting a second bracing member to the first bracing member along a second shared edge; (4) hingedly connecting the second bracing member to a first side of the second device; and (5) that the first and second shared edges be parallel.

With respect to the alleged anticipation of claim 1 by the cited art, Kester does not teach the step of hingedly connecting a first bracing member (torsion rod 32) to a second bracing member along a second shared edge, as required by limitation (3) of Claim 1. Since there is no second bracing member, Kester also does not teach the step of hingedly connecting a second bracing member to a first side of the second one of the devices, nor that the first and second shared edges are parallel, as required by limitations (4) and (5) respectively of Claim 1. With respect to Dillard, even if spring clips 44 are construed as "hingedly connecting a second bracing member to the first bracing member," they are not hingedly connected to the first and second devices, as required by limitations (2) and (4) of Claim 1. Dillard's spring clips 44 appear in FIG. 2, 3, 4, and 5 to be rigidly attached to panels 28, such that their furthest portions (i.e., in the place of attachment) are coplanar with panels 28. At no place in the text of Dillard are the connections of spring clips 44 to panels 28 disclosed as "hinged," as required by claim 1. With respect to Cruyssen, referring to Cruyssen's Fig-4c, when hinges are used, hinge parts 404 cross a hinge line between panels 22 and 23 and flexible sections 204 cross a hinge line between members 203 and 205. However, the hinge line between panels 22 and 23 is perpendicular to the hinge line between members 203 and 205, not parallel, as required by limitation (5) of claim 1. Referring to Cruyssen's Fig-4b, when hinges are not used, flexible sections 202, 204, 206, 208, 210, 302, 304, 306, 308, and 310 define hinge lines at intervals along ridges 200 and 300. But again, these hinge lines are perpendicular to the hinge lines between panels 21, 22, 23, 24, 25, and 26, in contrast to limitation (5) of claim 1 which requires that they be parallel. Since none of

the cited art teaches the limitations of claim 1, Applicants respectfully request reconsideration of Examiner's rejection of claim 1 with respect to anticipation under 35 USC § 102(b).

Amended claim 24 includes the following limitations: (1) Apparatus is for stiffening first and second devices in a foldable array of devices, and comprises (2) a plurality of devices with the first device and the second device hingedly connected along a first shared edge; (3) a first bracing member hingedly connected to the first device; (4) a second bracing member hingedly connected to the first bracing member along a second shared edge, and hingedly connected to the second device; and (5) the second shared edge is parallel with the first shared edge.

A second bracing member, as required by limitations (4) and (5) of claim 24, is nowhere mentioned in Kester, as discussed with respect to claim 1. With respect to Dillard, limitations (3) and (4) of claim 24 require that the bracing members be hingedly connected to the first and second devices respectively; but as discussed with respect to claim 1, Dillard teaches only rigidly attached spring clips 44. With respect to Cruyssen, limitation (5) of claim 24 requires that the bracing members be hingedly connected along a hinge line that is parallel to the hinge line between the first and second devices; but as discussed with respect to claim 1, Cruyssen teaches only flexible sections (e.g., 202, 204, ...) which connect along hinge lines perpendicular to the hinge lines between the devices (e.g., panels 21, 22, ...). Since none of the cited art teaches the limitations of claim 24, Applicants respectfully request reconsideration of Examiner's rejection of claim 24 with respect to anticipation under 35 USC § 102(b)..

Claim 46 as amended includes the limitations of: (1) providing a plurality of devices, at least a pair of the devices being foldably connected to one another along a first shared edge; (2) hingedly connecting a pair of bracing members along a second shared edge; (3) hingedly connecting the pair of bracing members to the pair of devices; (4) the first shared edge and second shared edge are parallel; and (5) the pair of bracing members must be adapted to deploy the pair of devices in an open position.

Kester teaches only single bracing members (e.g., individual torsion rods 32, 34, ...), not the pair of bracing members required by limitations (2), (3), (4), and (5) of claim 46. Kester also does not teach that the pair of bracing members are attached to each other, as required by limitation (2), nor that the pair of bracing members is hingedly attached to a pair of devices, as required by limitation (3). Kester also does not teach that the shared edges of

the bracing members be parallel with the shared edges of the devices, as required by limitation (4), nor that a pair of bracing members be adapted to deploy at least a pair of devices in an open position as required by limitation (5). With respect to Dillard, as discussed above with respect to claims 1 and 24, Dillard does not teach bracing members being hingedly attached to a pair of foldably connected devices, as required by limitation (3) of claim 46; Dillard teaches spring clips 44 rigidly attached to panels 28. With respect to Cruysen, as discussed above with respect to claims 1 and 24, Cruysen teaches only flexible sections (e.g., 202, 204, ...) which connect along hinge lines perpendicular to the hinge lines between the devices (e.g., panels 21, 22, ...), not parallel as required by limitation (4) of claim 46. Since none of the cited art teaches the limitations of claim 46, Applicants respectfully request reconsideration of Examiner's rejection of claim 46 with respect to anticipation under 35 USC § 102(b)..

Amended claim 48 includes the following limitations. (1) the apparatus is for integrated passive deployment; (2) a plurality of devices, at least a pair of the devices being foldably connected to one another along a first shared edge; (3) a pair of bracing members, hingedly connected along a second shared edge; (4) that the pair of bracing members be hingedly attached to at least the pair of devices; (5) that the first and second shared edges be parallel; and (6) the pair of bracing members is adapted to deploy the pair of devices in an open position.

Kester teaches only single bracing members, not a pair of bracing members as required by limitations (3), (4), (5), and (6) of claim 48. Kester also does not teach that the pair of bracing members are connected to each other, as required by limitation (3), nor that a pair of bracing members is hingedly attached to a pair of foldably connected devices, as required by limitation (4). Kester also does not teach that the shared edges of the bracing members be parallel with the shared edges of the devices, as required by limitation (5), nor a pair of bracing members adapted to deploy at least a pair of devices in an open position, as required by limitation (6). As discussed above with respect to claims 1, 24, and 46, Dillard does not teach bracing members being hingedly attached to a pair of foldably connected devices, as required by limitation (4) of claim 48; Dillard teaches spring clips 44 rigidly attached to panels 28. As discussed above with respect to claims 1, 24, and 46, Cruysen teaches only flexible sections (e.g., 202, 204, ...) which connect along hinge lines perpendicular to the hinge lines between the devices (e.g., panels 21, 22, ...), not parallel as

required by limitation (5) of claim 48. Since none of the cited art teaches the limitations of claim 48, Applicants respectfully request reconsideration of Examiner's rejection of claim 48 with respect to anticipation under 35 USC § 102(b)..

Claim 50 is a method of integrating cabling with stiffening or supporting means, and as amended includes the limitations of: (1) providing a plurality of devices, at least a pair of the devices being foldably attached to one another; (2) attaching at least a pair of hingedly connected bracing members to the pair of devices, and (3) at least one of the bracing members comprises means for transmitting electricity.

"Transmitting electricity," as required by limitation (3) of claim 50, is nowhere mentioned in Kester, Dillard, or Cruysen. Since none of the cited art teaches the limitations of claim 50, Applicants respectfully request reconsideration of Examiner's rejection of claim 50 with respect to anticipation under 35 USC § 102(b)..

Claim 56, as amended, is for an apparatus for stiffening or supporting means with integrated cabling, and includes the limitations of comprising: (1) a plurality of devices, at least a pair of the devices being foldably attached to one another, and (2) at least two bracing members attached to the pair of devices, (3) wherein at least one of the pair of bracing members comprises means for transmitting electricity.

Once again, "transmitting electricity," as required by limitation (3) of claim 56, is nowhere mentioned in Kester, Dillard, or Cruysen. Since none of the cited art teaches the limitations of claim 56, Applicants respectfully request reconsideration of Examiner's rejection of claim 56 with respect to anticipation under 35 USC § 102(b).

Claim 62 is for a method for manufacturing a deployable array of devices, and as amended, includes the limitations of: (1) providing a plurality of devices, at least a pair of the devices being foldably attached to one another along a first shared edge; (2) hingedly attaching at least a pair of bracing members which are hingedly connected along a second shared edge, to the pair of devices; (3) the first and second shared edges are parallel; and (4) collapsing said plurality of devices and said pair of bracing members.

As discussed above with respect to claim 1 and others, the pair of bracing members required in limitations (2), (3), and (4) is nowhere mentioned in Kester. Further, since the pair of hingedly connected bracing members is absent from Kester, also absent is the requirement of limitation (3) that the shared edge of this pair be parallel with the shared edge of the shared edge of the devices. As discussed above with respect to claim 1 and others,

Dillard does not teach bracing members being hingedly attached to a pair of foldably connected devices, as required by limitation (2) of claim 62; Dillard teaches spring clips 44 rigidly attached to panels 28. As discussed above with respect to claim 1 and others, Cruysen teaches only flexible sections (e.g., 202, 204, ...) which connect along hinge lines perpendicular to the hinge lines between the devices (e.g., panels 21, 22, ...), not parallel as required by limitation (3) of claim 62. Since none of the cited art teaches the limitations of claim 62, Applicants respectfully request reconsideration of Examiner's rejection of claim 62 with respect to anticipation under 35 USC § 102(b)..

Claim 65 is for an apparatus for use as a deployable array of devices, and as amended to includes the limitations of: (1) a plurality of devices, at least a pair of the devices being foldably attached to one another along a first shared edge; (2) at least a pair of bracing members, hingedly connected to each other along a second shared edge; (3) the first and second shared edges are parallel; (4) the pair of bracing members are hingedly connected to the pair of devices; and (5) the plurality of devices and the pair of bracing members are collapsed.

As discussed above, the pair of bracing members required in limitations (2), (3), (4), and (5) is nowhere mentioned in Kester. Further, since the pair of bracing members is absent from Kester, also absent is the requirement of limitation (3) that the shared edge of this pair be parallel with the shared edge of the shared edge of the devices. As discussed above with respect to claim 1 and others, Dillard does not teach bracing members being hingedly attached to a pair of foldably connected devices, as required by limitation (4) of claim 65; Dillard teaches spring clips 44 rigidly attached to panels 28. As discussed above with respect to claim 1 and others, Cruysen teaches only flexible sections (e.g., 202, 204, ...) which connect along hinge lines perpendicular to the hinge lines between the devices (e.g., panels 21, 22, ...), not parallel as required by limitation (3) of claim 65. Since none of the cited art teaches the limitations of claim 65, Applicants respectfully request reconsideration of Examiner's rejection of claim 65 with respect to anticipation under 35 USC § 102(b).

In view of the text of the independent claims 1, 24, 46, 48, 50, 56, 62, and 65 as amended, and the above discussion, Applicants believe that all of these independent claims are allowable, and therefore claims 2-23, 25-45, 47, 49, 51-55, 57-61, 63, 64, 66, and 67 depending therefrom are also allowable. Moreover, these claims have additional limitations that are also not taught by any of the cited art. For example, claim 3 specifically limits the

selection of at least one of the devices to a thin-film electrochemical device; such devices are nowhere mentioned in Kester, Dillard, or Cruyssen. Claim 14 requires that at least one of the devices in a foldable array be flexible. Flexible devices are not disclosed in Kester, Dillard, or Cruyssen. Claim 17 specifically limits the selection of at least one of the devices to thin-film photovoltaic cells; such cells are nowhere mentioned in Kester, Dillard, or Cruyssen. Claims 19 and 20 require a plurality of devices arranged on a single substrate. Kester discusses only panels connected by hinges and torsion rods, with no mention of multiple devices on a single substrate. Dillard discusses only panels connected by hinge means 30, spring clips 44, and booms 16, with no mention of multiple devices on a single substrate. Cruyssen discusses only panels connected by hinges 41, 42, 43, (...), and ridges 100, 200, 300 composed of various parts, with no mention of multiple devices on a single substrate. Claim 21 requires that a foldable array of devices comprise a grid array of devices; a grid array of devices is nowhere mentioned in Kester, Dillard, or Cruyssen. Claim 22, as amended, requires the step of connecting a third bracing member to one of the two bracing members of claim 1 as amended; a third bracing member is nowhere mentioned in Kester, Dillard, or Cruyssen. Claim 23 requires the step of providing an electrostatic discharge layer; such electrostatic discharge layer is nowhere mentioned in Kester, Dillard, or Cruyssen.

In addition to the allowability of claims 25-45 as dependent from an allowable claim 24 as discussed above, many of claims 25-45 have further limitations that are not anticipated by any of the cited art. Claim 36 requires that at least one or more devices be flexible. The panels disclosed in Kester, Dillard, and Cruyssen are not described as flexible, and as discussed above, inspection of Kester's Figure 1 shows that if the panels disclosed therein were flexible, they would twist under the stresses imparted by the torsion bars, hinges, and saddle-shaped fasteners described, with the assembly in a folded state and torsional energy stored in the torsion bars. Claim 39 specifically limits the selection of at least one solar energy cell to a thin-film photovoltaic cell, which is nowhere mentioned in Kester, Dillard, or Cruyssen. Claims 41 and 42 require a plurality of devices arranged on a single substrate; devices arranged on a single substrate are nowhere mentioned in Kester, Dillard, or Cruyssen, as discussed above with respect to claims 19 and 20. Claim 43 requires that a foldable array of devices comprise a grid array of devices; a grid array of devices is nowhere mentioned in Kester, Dillard, or Cruyssen, as discussed above with respect to claim 21. Claim 44 requires a third bracing member in addition to the first two bracing members of claim 24; such third

bracing member is nowhere mentioned in Kester, Dillard, or Cruysen, as discussed above with respect to claim 22. Claim 45 requires an electrostatic discharge layer; such electrostatic discharge layer is nowhere mentioned in Kester, Dillard, or Cruysen.

In addition to the allowability of claims 51-55 as dependent from an allowable claim 50, as discussed above, claims 51-55 have further limitations that are not anticipated by any of the cited art. For example, claim 51 requires that both of the pair of hingedly connected bracing members comprise a means for transmitting electricity. Claims 52-55 place limitations upon transmitting electricity, including: means for transmitting electrical energy to or from a power source; means for communicating an electric signal; means comprising use of flexible circuit technology; and means comprising use of electronic circuits selected from the group consisting of a filter circuit, a boost circuit, a transformer circuit, an amplifier circuit, and an automatic bypass circuit. None of these limitations (and no teachings at all with respect to transmitting electricity) are disclosed in Kester, Dillard, or Cruysen.

In addition to the allowability of claims 57-61 as dependent from an allowable claim 56, as discussed above, claims 57-61 have further limitations that are not anticipated by any of the cited art. Claim 57 requires that both of the pair of bracing members comprise a means for transmitting electricity. Claims 58-60 require "transmitting electricity," including means for transmitting electrical energy to or from a power source, means for communicating an electric signal, and flexible circuit technology, respectively. Claim 61 requires that an apparatus further comprise one or more electronic circuits selected from the group consisting of a filter circuit, a boost circuit, a transformer circuit, an amplifier circuit, and an automatic bypass circuit. None of "transmitting electricity," "transmitting electricity to or from a power source," "communicating an electric signal," "flexible circuit technology," "a filter circuit, a boost circuit, a transformer circuit, an amplifier circuit," or "an automatic bypass circuit" are taught in Kester, Dillard, or Cruysen.

Claim 64 includes the claim limitation that the method comprise at least one step of rolling, and claim 67 includes the claim limitation that a collapsing technique comprise at least one step of rolling. Rolling is nowhere mentioned in Kester, Dillard, or Cruysen.

8-11. Claim Rejections – 35 USC § 103

The following is a quotation from the MPEP setting forth the three basic criteria that must be met to establish a *prima facie* case of obviousness.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP §2142, citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Examiner has stated that each of Kester, Dillard, and Cruysen teach the limitations of the instant claims other than the use of copper-indium-gallium-selenide ("CIGS") cells, and that the publication by Fairbanks et al, "Adaptation of Thin-Film Photovoltaic Technology for Use in Space" ("Fairbanks") makes the use of CIGS cells to power satellites obvious.

Applicants respectfully traverse this rejection and point out that as discussed above, all of independent claims 1, 24, 46, 48, 50, 56, 62, and 65 as amended contain limitations that are not taught nor suggested in any prior art of record. No motivation or suggestion exists to combine the cited art. Even if the cited art is indiscriminately combined, an embodiment thus formed is completely silent on certain limitations of these independent claims. For example, the cited art, alone or in combination does not address all of the limitations of claim 1, as discussed above with respect to Examiner's rejections under 35 USC § 102: (1) connecting a hinge between a first device and a second device along a first shared edge; (2) hingedly connecting a first bracing member to a first side of the first device; (3) hingedly connecting a second bracing member to the first bracing member along a second shared edge; (4) hingedly connecting the second bracing member to a first side of the second device; and (5) that the first and second shared edges be parallel. The cited art, alone or in combination does not address all of the limitations of claim 24, as discussed above: (1) Apparatus is for stiffening first and second devices in a foldable array of devices, and comprises (2) a plurality of devices with the first device and the second device hingedly connected along a first shared edge; (3) a first bracing member hingedly connected to the first device; (4) a second bracing member hingedly connected to the first bracing member along a second shared edge, and hingedly connected to the second device; and (5) the second shared edge is parallel with the first shared edge. The cited art, alone or in combination does not address all of the limitations of claim 46, as discussed above: (1) providing a plurality of devices, at least a pair of the devices being foldably connected to one another along a first shared edge; (2) hingedly connecting a pair of bracing members along a second shared edge; (3) hingedly

connecting the pair of bracing members to the pair of devices; (4) the first shared edge and second shared edge are parallel; and (5) the pair of bracing members must be adapted to deploy the pair of devices in an open position. The cited art, alone or in combination does not address all of the limitations of claim 48, as discussed above: (1) the apparatus is for integrated passive deployment; (2) a plurality of devices, at least a pair of the devices being foldably connected to one another along a first shared edge; (3) a pair of bracing members, hingedly connected along a second shared edge; (4) that the pair of bracing members be hingedly attached to at least the pair of devices; (5) that the first and second shared edges be parallel; and (6) the pair of bracing members is adapted to deploy the pair of devices in an open position. None of the cited art addresses means for transmitting electricity, as required by independent claims 50 and 55. The cited art, alone or in combination does not address all of the limitations of claim 62, as discussed above: (1) providing a plurality of devices, at least a pair of the devices being foldably attached to one another along a first shared edge; (2) hingedly attaching at least a pair of bracing members which are hingedly connected along a second shared edge, to the pair of devices; (3) the first and second shared edges are parallel; and (4) collapsing said plurality of devices and said pair of bracing members. The cited art, alone or in combination does not address all of the limitations of claim 65, as discussed above: (1) a plurality of devices, at least a pair of the devices being foldably attached to one another along a first shared edge; (2) at least a pair of bracing members, hingedly connected to each other along a second shared edge; (3) the first and second shared edges are parallel; (4) the pair of bracing members are hingedly connected to the pair of devices; and (5) the plurality of devices and the pair of bracing members are collapsed.

Therefore the Kester, Dillard, and Cruyssen art, alone or in indiscriminate combination, fails in the first place to support what is claimed, let alone provide motivation or suggestion that they be combined.

Inasmuch as the independent claims contain these limitations, dependent claims 2-23, 25-45, 47, 49, 51-55, 57-61, 63, 64, 66, and 67 that depend therefrom, including dependent claims 18 and 40 which specify CIGS cells, also contain such limitations. Applicants respectfully request reconsideration of Examiner's rejection of all of claims 1-67 under 35 USC § 103 with respect to the Kester, Dillard, and Cruyssen art in view of Fairbanks.

Conclusion

In view of the above Amendment and Remarks, Applicants have addressed all issues raised in the Office Action dated July 22, 2003, and respectfully solicit a Notice of Allowance for claims 1-71. Should any issues remain, the Examiner is encouraged to telephone the undersigned attorney.

Applicants submit herewith a Petition for a three-month extension of time, along with authorization to charge the required Petition Fee of \$475 and the necessary fee of \$36 for four claims added with this amendment. It is believed that no further fees are due; however, should any additional fees be deemed necessary in connection with this Response, the commissioner is hereby authorized to charge deposit account 12-0600.

Applicants wish to point out that a Revocation of Power of Attorney, a new Power of Attorney and a Request to Amend Attorney Docket Number are submitted herewith. Should any questions arise regarding these documents, the Examiner is encouraged to contact the undersigned attorney.

Respectfully submitted,

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